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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,171	02/15/2002	Pamela Sklar	2825.2026-001	3181

21005 7590 11/13/2003

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EXAMINER

SOUAYA, JEHANNE E

ART UNIT PAPER NUMBER

1634

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/077,171	Applicant(s) SKLAR ET AL.	
	Examiner Jehanne Souaya Sitton	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
 4a) Of the above claim(s) 1-10,22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II in the response dated 6/30/2003 is acknowledged. Claims 1-10 and 22-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. An action on the merits of claims 11-21 follows.

Claim Objections

2. Claims 13-15 and 19-21 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 11 and 16 are drawn to methods which comprise a step of determining the identity of nucleotide position 31 as numbered in SEQ ID NO: 1. One of skill in the art, reading this claim, would determine that such was drawn to determining the identity of the nucleotide at position 31, not another nucleotide at a different position. However, claims 13 and 19 recite the term "corresponding" which does not appear to be limited to nucleotide position 31. This is further evidenced by claims 14 and 20 which are dependent from claims 13 and 19 respectively, which recite SEQ ID NO: 3. However, the specification teaches that SEQ ID NO: 3 was used to determine the identity of the nucleotide at position 858, not position 31, of SEQ ID NO: 1. As such, the claims do not further limit claims 11 and 16. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 11-21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of predicting the likelihood that an individual will be diagnosed with bipolar disorder comprising the steps of; a) obtaining a DNA sample from an individual to be assessed; and b) determining the nucleotide present specifically at nucleotide position 31 of brain derived neurotrophic factor gene, as numbered in SEQ ID NO: 1, wherein the presence of a "A" at position 31 indicates that the individual has an increased likelihood of being diagnosed with a bipolar disorder as compared with an individual having at "T" at that position and wherein the presence of a "T" at position 31 indicates that the individual has a reduced likelihood of being diagnosed with a bipolar disorder as compared to an individual having an "A" at that position, does not reasonably provide enablement for methods wherein the actual nucleotide specifically at position 31 is not determined, but where nucleotides "corresponding to position 31" are determined. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

Claims 13 and 19 are broadly drawn to determining the nucleotide "corresponding" to position 31. This does not appear to limit the term to only position 31 of SEQ ID NO: 1, as evidenced by the use of SEQ ID NO: 3 in claims 14 and 20, respectively, which the specification teaches was used to determine the identity of the nucleotide at position 858 of SEQ ID NO: 1, not position 31. It is noted that this dependency renders the use of the term "at position 31" in claims 11 and 16, not only indefinite and unclear, but also broader than would generally be accepted by one of skill in the art. Although the specification teaches, at page 25, that the T allele at position 31 was found to be "in nearly complete linkage disequilibrium" with the A

allele at position 858, the identity of the allele at position 858 does not necessarily indicate the actual identity of the allele at position 31. For example, no data is presented as to what the presence of a T or a C at position 858 would indicate in terms of the identity of the allele at position 31. Further, claims 13, 15, 19, and 21 are not limited to position 858. In such claims, it is unclear as to what the scope of the term “corresponding” is. For example, such could encompass other alleles that are in linkage disequilibrium with position 31 or 858 of SEQ ID NO: 1. However, such is also not necessarily predictive of the allele of position 31. Sklar et al (Molecular Psychiatry; 2002, vol. 7, pp 579-593) teach of a number of different haplotypes that are found for BDNF (see table 4). For example, in the Hopkins dataset, 13 different haplotypes were found (page 588, 2nd col. Last para). While the SNPS in table 3 were found to be in “strong linkage disequilibrium” (see page 588, col. 2, first sentence of first full para) the presence of so many haplotypes shows that linkage disequilibrium will not always determine the identity of the allele of a certain position based on the identity of an allele at a position in linkage disequilibrium with it. Table 3 shows that patients with a G at position a39, had either an A or a T at position a40 (a40 is the same SNP as position 31 of instant SEQ ID NO: 1). Thus, while the specification provides an association between a decreased likelihood of bipolar disorder and a T at position 31 as compared to an A at that position, the specification has not established a predictable correlation that the identity of the allele at position 31 can be determined by determining the identity of an allele “corresponding to position 31 of SEQ ID NO: 1”. As neither the specification nor the claim define the metes and bounds of such recitation, the scope of the term “corresponding” is very large, and minimally encompasses alleles in linkage disequilibrium. However, as evidenced by the teachings in the prior art, determining the identity

of an allele (ie: allele 1) does not necessarily indicate the true identity of a nucleotide of an allele in linkage disequilibrium with allele 1. Trial and error analysis would be required for the skilled artisan to determine the identity of the nucleotide at position 31 of SEQ ID NO: 1 by determining the identity of an allele “corresponding” to position 31 of SEQ ID NO: 1. The outcome of such analysis is unpredictable, as evidenced by the art, and is therefore considered undue.

4. Claims 11-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) Claims 13-15 and 19-21 are indefinite as it is unclear what the term “corresponding”, in claims 13 and 19, encompasses. Claims 11 and 16, from which claims 13 and 19, respectively, depend, recite determining the nucleotide *at* position 31. However, SEQ ID NO: 3 is not used to determine the nucleotide at position 31, but at position 858. Thus it appears that the term corresponding does not necessarily limit the claim to position 31, but to different positions of SEQ ID NO: 1. Such is indefinite, because the claims in those instances do not further limit the parent claims and are thus improperly dependent. Further, the term is indefinite because the specification teaches, at page 8, for example, that “position 31” and “position 858” refer to nucleotide positions of the BDNF gene corresponding to positions 31 and 858 respectively. Thus it is unclear as to what the term “corresponding” in claims 13 and 19 is actually limited to. The metes and bounds of the claims are unclear.

B) With regard to claims 11 and 16, where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description

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must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The recitation of “at nucleotide position 31” in claims 11 and 16 appears to be used by the claim to mean “not necessarily *at* position 31”. The meaning of this recitation is unclear based on the improper dependency of claims 13-15 and 19-21 respectively. If the claims are not improperly dependent, than the use of “determining the nucleotide present at nucleotide position 31” is not consistent with the accepted meaning because one of skill in the art would take that to mean actually testing the identity of a nucleotide *at* position 31, not another position, as the claims appear to intend. The term is indefinite because the specification does not clearly redefine the term.

Conclusion


5. No claims are allowable.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jehanne Sitton whose telephone number is (703) 308-6565. The examiner can normally be reached Monday-Thursday from 8:00 AM to 5:00 PM and on alternate Fridays.

Note: The examiner's name has changed from Jehanne Souaya to Jehanne Sitton. All future correspondence to the examiner should reflect the change in name. It is also noted that after January 12, 2004, the examiner will be located at the new USPTO campus and will be reachable at telephone number (571) 272-0752.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.



Jehanne (Souaya) Sitton
Primary Examiner
Art Unit 1634

11/12/03